

CLAIMS:

1. An electrophoretic display panel (1), for displaying a picture corresponding to image information, comprising:

- an electrophoretic medium (5) comprising charged particles (6);
- a plurality of picture elements (2);

5 - a first and a second electrode (3,4) associated with each picture element (2) for receiving a potential difference; and

- drive means (100) ,

the charged particles (6) being able to occupy a position being one of extreme positions near the electrodes (3,4) and intermediate positions in between the electrodes (3,4) for displaying

10 the picture, and

the drive means (100) being arranged for controlling the potential difference of each picture element (2)

- to be a reset potential difference having a reset value and a reset duration for enabling particles (6) to substantially occupy one of the extreme positions, and subsequently

15 - to be a picture potential difference for enabling the particles (6) to occupy the position corresponding to the image information,

characterized in that

the drive means (100) are further arranged for controlling the reset potential difference of each picture element (2) of at least a number of the picture elements (2) to have an additional

20 reset duration.

2. A display panel (1) as claimed in claim 1 characterized in that each additional reset duration is larger than one tenth of a reference duration and smaller than three times the reference duration, the reference duration being equal to a duration to change the position of particles (6) of the respective picture element (2) from one of the extreme positions to the other one of the extreme positions.

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3. A display panel (1) as claimed in claim 1 or 2 characterized in that each picture element (2) is one of the number of the picture elements (2).

4. A display panel (1) as claimed in claim 3 characterized in that for each picture element (2) the respective reset duration and the respective additional reset duration have a respective sum being substantially equal to a constant.

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5. A display panel (1) as claimed in any of the claims 1 to 4 characterized in that the drive means (100) are further arranged for controlling the reset potential difference of each picture element (2) to enable particles (6) to occupy the extreme position which is closest to the position of the particles (6) which corresponds to the image information.

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6. A display panel (1) as claimed in claim 3 characterized in that the picture elements (2) are arranged along substantially straight lines (30), and the picture elements (2) have substantially equal first appearances if particles (6) substantially occupy one of the extreme positions, and

15 the picture elements (2) have substantially equal second appearances if particles (6) substantially occupy the other one of the extreme positions, and the drive means (100) are further arranged for controlling the reset potential differences of subsequent picture elements (2) along each line (30) to enable particles (6) to substantially occupy unequal extreme positions.

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7. A display panel (1) as claimed in claim 3 characterized in that the picture elements (2) are arranged along substantially straight rows (31) and along substantially straight columns (32) being substantially perpendicular to the rows (31) in a two-dimensional structure, each row (31) having a predetermined first number of picture elements (2), each
25 column (32) having a predetermined second number of picture elements (2), and the picture elements (2) have substantially equal first appearances if particles (6) substantially occupy one of the extreme positions, and the picture elements (2) have substantially equal second appearances if particles (6) substantially occupy the other one of the extreme positions, and
30 the drive means (100) are further arranged for controlling the reset potential differences of subsequent picture elements (2) along each row (31) to enable particles (6) to substantially occupy unequal extreme positions, and

the drive means (100) are further arranged for controlling the reset potential differences of subsequent picture elements (2) along each column (32) to enable particles (6) to substantially occupy unequal extreme positions.

5 8. A display panel (1) as claimed in any of the claims 1 to 7 characterized in that the drive means (100) are further arranged for controlling the potential difference of each picture element (2) of the number of the picture elements (2) to be a sequence of preset potential differences before being the reset potential difference, the sequence of preset potential differences having preset values and associated preset durations, the preset values in
10 the sequence alternating in sign, each preset potential difference representing a preset energy sufficient to release particles (6) present in one of said extreme positions from their position but insufficient to enable said particles (6) to reach the other one of the extreme positions.

9. A display panel (1) as claimed claim 8 characterized in that the drive means
15 (100) are further arranged for controlling the potential difference of each picture element (2) of the number of the picture elements (2) to be a further sequence of preset potential differences between being the reset potential difference and the picture potential difference.